



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,434	04/12/2004	Hongwei Kong	67108-089	1440

26096 7590 01/24/2007
CARLSON, GASKEY & OLDS, P.C.
400 WEST MAPLE ROAD
SUITE 350
BIRMINGHAM, MI 48009

EXAMINER

ELCENKO, ERIC J

ART UNIT	PAPER NUMBER
----------	--------------

2617

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/24/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/822,434	Applicant(s) KONG ET AL.	
	Examiner Eric Elcenko	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION


1. In view of the Appeal Brief filed on 30 October 2006, PROSECUTION IS HEREBY REOPENED. The new rejection set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:


DUC M. NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-11 and 14-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Yun et al. (U.S. Pub. No. 2003/0206541)

In regard to claim 1, Yun teaches a switch frame, a method of transmitting the same at a mobile station and a quality indicator channel structure including the same. The frame for switching a cell/sector has at least one first slot at a beginning portion of the frame, the at least one first slot having a channel quality indicating information, and at least one second slot to an end portion of the frame, the at least one second slot having cell/sector switching information. Yun also teaches a quality indicator channel (CQICH). First the CQICH is used to report channel information that is represented as a power ratio of a carrier to interference signal of a carrier of the best serving cell/sector. Second the CQICH may be used to point to the best serving cell/sector among cell/sectors that belong to an active set. The mobile station repeatedly transmits the switch frame for N frames of a predetermined switch frame repetition factor so that the base station, including the cell/sector and/or the target cell/sector which the mobile

Art Unit: 2617

station wishes to switch, can accurately detect the switching intention of the mobile station. (Para 7-8 53-54)

In regard to Claim 2-4, 6-8 and 17-19 the detection can happen for example at which time point and to which cell/sector switching occurs. The CQICH may be used to point to the best serving cell/sector among cell/sectors that belong to an active set. The mobile station repeatedly transmits the switch frame for N frames of a predetermined switch frame repetition factor so that the base station, including the cell/sector and/or the target cell/sector which the mobile station wishes to switch, can accurately detect the switching intention of the mobile station. (Para 7-8 53-54)

In regard to Claims 5 and 16, Yun teaches a switch frame, a method of transmitting the same at a mobile station and a quality indicator channel structure including the same. The frame for switching a cell/sector has at least one first slot at a beginning portion of the frame, the at least one first slot having a channel quality indicating information, and at least one second slot to an end portion of the frame, the at least one second slot having cell/sector switching information. Yun also teaches a quality indicator channel (CQICH). First the CQICH is used to report channel information that is represented as a power ratio of a carrier to interference signal of a carrier of the best serving cell/sector. Second the CQICH may be used to point to the best serving cell/sector among cell/sectors that belong to an active set. The mobile station repeatedly transmits the switch frame for N frames of a predetermined switch frame repetition factor so that the base station, including the cell/sector and/or the target

Art Unit: 2617

cell/sector which the mobile station wishes to switch, can accurately detect the switching intention of the mobile station. (Para 7-8 53-54)

In regard to Claim 9, 10 and 14-15, the CQICH is used to report channel information that is represented as a power ratio of a carrier-to-interference (hereinafter referred to as C/I) signal of a carrier of the best serving cell/sector for every 1.25 ms. Based on this channel information, a corresponding base transceiver subsystem (base station) varies transmission power levels of a packet data channel, and data transmission rates (for example, encoder packet data sizes and transmission slot durations, when to schedule a particular mobile station on the packet data channel, and when to handoff transmission on the packet data channel from one pilot (e.g., sector or base station (e.g., cell)) to another sector or base station (e.g., cell)). (Para 7, 13)

In regard to Claim 11, In the full reporting mode of the normal mode, the mobile station measures the forward full C/I information of the best serving cell/sector for each 1.25 ms, quantizes the measured information by a predetermined number of bits, and applies a [12, 4]-block coding to the quantized information. Then, the mobile station performs a 8-ary Walsh covering of the best serving cell/sector with respect to the block-coded quantized information. (Para 16)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 12 and 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yun et al. (U.S. Pub. No. 2003/0206541) in view of Tee (U.S. Pub. No. 2002/0111158)

Yun does not disclose obtaining a serving metric or a target metric corresponding to the highest probability that the SSI has been sent to any one of said active set sectors.

Tee discloses obtaining a serving metric corresponding to a normal channel quality report for the serving sector (causes of connection drop is due to the loss of forward link signal from the serving BS based on the observation of some field measurement data) (Para 108) and obtaining a target metric corresponding to a highest probability that the SSI has been sent to any one of said active set sectors (reads on when a rescue condition is detected, a BS in the neighborhood of the MS awaiting rescue can measure the strength of the uniform energy signal transmitted from the MS, if the signal strength exceeds a threshold the BS can include itself in the rescue active set)(Para110)

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Yun to include the teachings of Tee in order to allow the mobile station to maintain communication with one or more sectors when connections fail or drop.

Art Unit: 2617


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Elcenko whose telephone number is (571) 272-8066. The examiner can normally be reached on M-F 7:30 AM through 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on (571) 272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ee


DUC M. NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600